Assignment 2

1. **What are the two values of the Boolean data type? How do you write them?**

Ans. Two Boolean Data Type: True & False. We can write them as “True” and “False”

2. **What are the three different types of Boolean operators?**

Ans. Three types of Boolean Operators are: AND, OR, NOT.

3. **Make a list of each Boolean operator's truth tables (i.e. every possible combination of Boolean values for the operator and what it evaluate).**

Ans.

X	Y	X AND Y
0(False)	0(False)	0(False)
0(False)	1(True)	0(False)
1(True)	0(False)	0(False)
1(True)	1(True)	1(True)

X	Y	X OR Y
0(False)	0(False)	0(False)
0(False)	1(True)	1(True)
1(True)	0(False)	1(True)
1(True)	1(True)	1(True)

X	NOT X
0(False)	1(True)
1(True)	0(False)

4. **What are the values of the following expressions?**
   (5 > 4) and (3 == 5) → False
   not (5 > 4) → False
   (5 > 4) or (3 == 5) → True
   not ((5 > 4) or (3 == 5)) → False
   (True and True) and (True == False) → False
   (not False) or (not True) → True

5. **What are the six comparison operators?**

Ans. Comparison Operators are: > , < , <= , >=, ==, !=

(Greater than, Less than , Less than equals to, Greater than equals to, equals to, not equals to) respectively.

6. **How do you tell the difference between the equal to and assignment operators? Describe a condition and when you would use one.**

Ans. Equal to operator → == , this operator compares the value which on its left and right and gives a Boolean output (True or False) while Assignment operator assigns a value from the right side to the variable on the left side. Ex. a=10. Here a value of 10 is assigned to the variable **a.**

7. **Identify the three blocks in this code:**

```
spam = 0
if spam == 10:
print('eggs')
if spam > 5:
print('bacon')
else:
print('ham')
print('spam')
print('spam')
```

Ans.
```
spam = 0
    if spam == 10:                  #First Block
            print('eggs')
    if spam > 5:                    #Second Block
            print('bacon')
    else:                           #Third Block
            print('ham')
            print('spam')
            print('spam')
```

8. **Write code that prints Hello if 1 is stored in spam, prints Howdy if 2 is stored in spam, and prints Greetings! if anything else is stored in spam.**

Ans.
```
def test (spam):
        if spam == 1:
                print('Hello')
        elif spam == 2:
                print('Howdy')
        else:
                print('Greetings!')
```

9. **If your programme is stuck in an endless loop, what keys you'll press?**

Ans. Ctrl + C

10. **How can you tell the difference between break and continue?**

Ans. Continue: It pass the control flow to the next iteration as soon as the continue comes to execute in a loop without letting the further code to be executed.
Break: It exits the current execution block and throw the execution control to the just outer block.

11. In a for loop, what is the difference between range(10), range(0, 10), and range(0, 10, 1)?

Ans.

➔ **range(10) :** It generate a sequence of numbers from 0 to 9(i.e. 10-1 = 9). It means range(stop).

➔ **range(0,10):** The first argument in range function tells the start point and the other argument tells where to stop-1. In this case, it generates a sequence of number from 0 to 9 (i.e. 10-1 = 9)

➔ **range(0,10,1):** Range(start, stop, step size)
In this case, it will generate a sequence of number from 0 to 9 with step size of 1.

12. Write a short program that prints the numbers 1 to 10 using a for loop. Then write an equivalent program that prints the numbers 1 to 10 using a while loop.

Ans. 1)
```
for i in range(1,11):
    print(i)
```

2)
```
i=1
while(i<=10):
    print(i)
    i=i+1
```

13. If you had a function named bacon() inside a module named spam, how would you call it after importing spam?

Ans.
```
import spam as sp
sp.bacon()
```